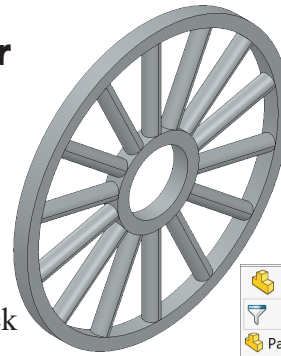




Bike and Trailer Rim



A. Extrude1 Rim.

Step 1. Click File Menu > New, click **Part Metric** and OK.

Step 2. Click **Right Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 1**.

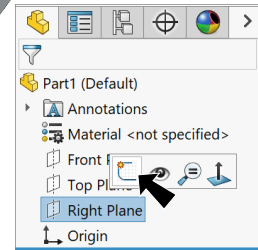


Fig. 1

Step 3. Click **Circle**  (S) on the Sketch toolbar.

Step 4. Sketch 4 circles at **Origin** , **Fig. 2**.

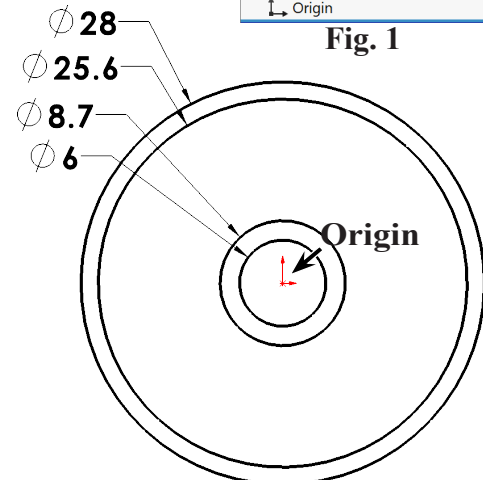
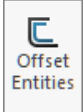



Fig. 2

Step 5. Click **Smart Dimension**  (S) on the Sketch toolbar.

Step 6. Dimension **diameters**, **Fig. 2**.

Step 7. Click **Offset Entities**  on the Sketch toolbar.

Step 8. In the Offset Entities Property Manager set:
under Parameters, **Fig. 3**

Distance  **.14 (clearance of Hub)**
uncheck **Reverse**

under Construction geometry
check **Base geometry**

click **inside circle (6 dia)**, **Fig. 4**

Yellow offset circle on outside - base geometry (construction) on inside

click OK .

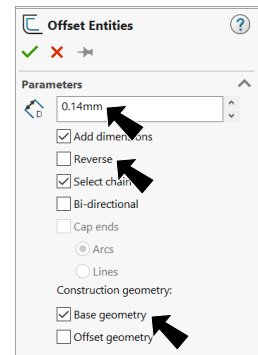


Fig. 3

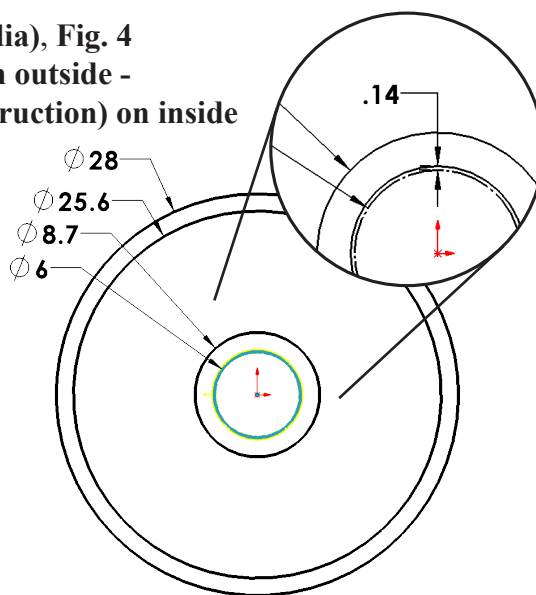


Fig. 4

Step 9. Click **Features**  on the Command Manager toolbar.

Step 10. Click **Extruded Boss/Base**  on the Features toolbar.

Step 11. In the Boss-Extrude Property Manager set:

under Direction 1, **Fig. 5**

End Condition **Mid Plane**

Depth  **1.5**

under Selected Contours

click the **two contours**,

Fig. 6

click OK  .

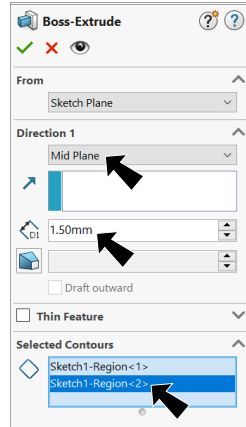


Fig. 5

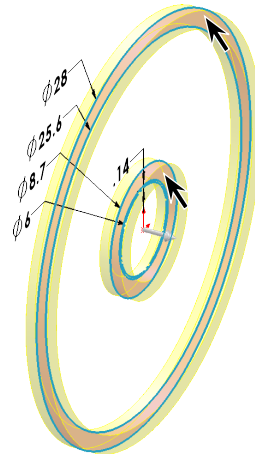


Fig. 6

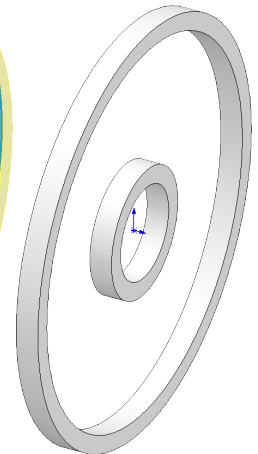


Fig. 7

B. Save as "RIM".

Step 1. Click File Menu > Save As.

Step 2. Key-in **RIM** for the filename and press ENTER.

C. Extrude2 Spoke.

Step 1. Click **Top Plane**  in the Feature Manager and click **Sketch**  on the context toolbar, **Fig. 8**.

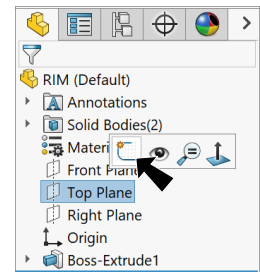



Fig. 8

Step 2. Click **Normal To**  on the Standard Views toolbar. (**Ctrl-8**)

Step 3. Click **Circle**  (**S**) on the Sketch toolbar.

Step 4. Sketch at **circle at Origin**  , **Fig. 9**.

Step 5. Click **Smart Dimension**  (**S**) on the Sketch toolbar.

Step 6. Dimension **diameter 1.5**, **Fig. 10**.

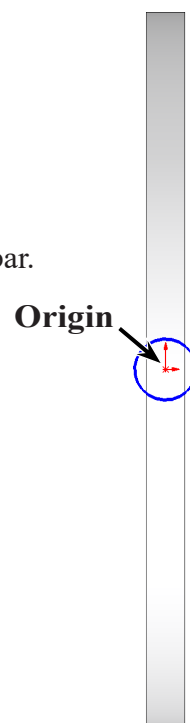


Fig. 9

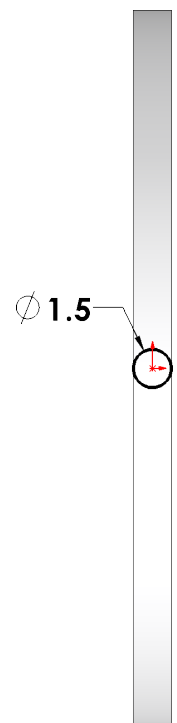



Fig. 10

Step 7. Click **Isometric**  on the Standard Views toolbar. (Ctrl-7)

Step 8. Click **Features**  on the Command Manager toolbar.

Step 9. Click **Extruded Boss/Base**  on the Features toolbar.

Step 10. In the Boss-Extrude Property Manager set:
under From, **Fig. 11**

Start Condition **Surface/Face/Plane**
in Select a Surface/Face/Plane box
click **outside face of inter ring**,
Fig. 12

under Direction 1

End Condition **Up To Next**

click OK .

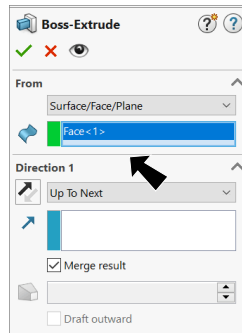


Fig. 11

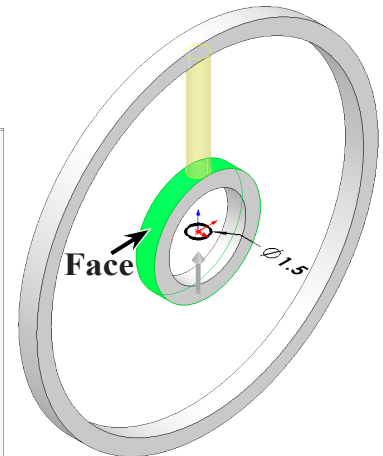


Fig. 12

Step 11. Save  (Ctrl-S).

D. Circular Pattern.

Step 1. Click **Circular Pattern**  in the **Linear Pattern** flyout

 on the Features toolbar.

Step 2. In the Circular Pattern Property Manager set:

under Features and Faces, **Fig. 13**

click **spoke** in graphics area, **Fig. 14**

under Direction 1

click in Pattern Axes box

click a **cylindrical face**

check **Equal spacing**

Number of Instances  14

click OK .

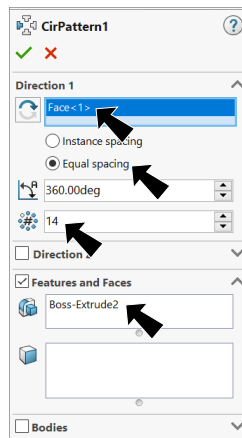


Fig. 13

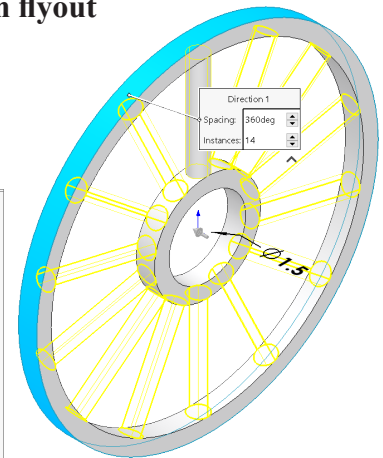


Fig. 14

Step 3. Save  (Ctrl-S).

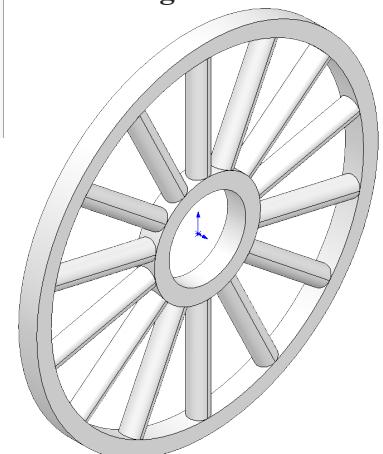


Fig. 15

E. Appearance: Chrome.

Step 1. Click the part to select part, click **Appearances Callout**



on the context toolbar and click **RIM** , Fig. 16.

Step 2. In the Appearances Task pane, expand **Metal** and click **Chrome** and in the lower pane select **chromium plate**, Fig. 17.

Step 3. In the Appearances Property Manager click OK .

Step 4. Save  (Ctrl-S).

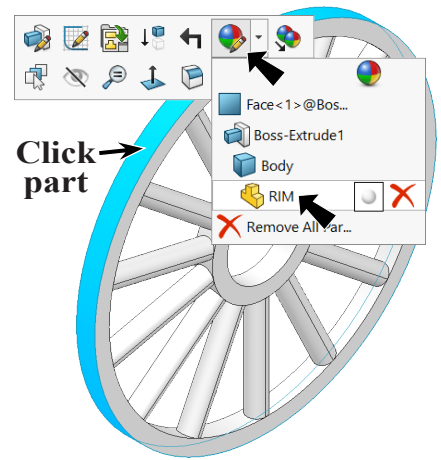


Fig. 16

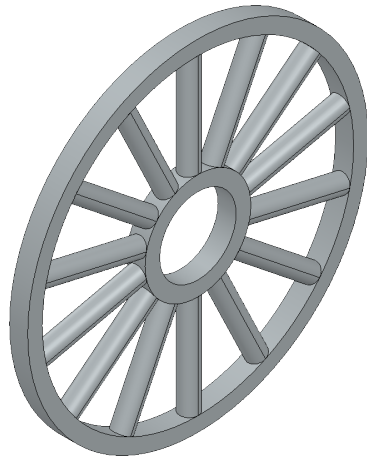


Fig. 19

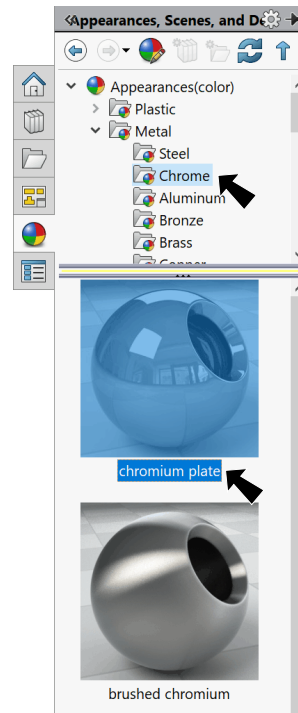


Fig. 17

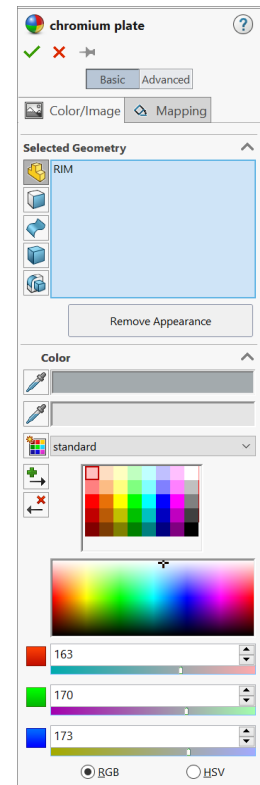


Fig. 18